



Launch Mission Execution Forecast

Mission: Atlas V Lucy

Issued: 15 Oct 2021 / 0800L (1200Z)

Valid: 16 Oct 2021 / 0534 – 0649L (0934 – 1049Z)



Forecast Discussion: High pressure will settle over the area today and tomorrow, resulting in pleasant weather with mostly clear skies and light winds. Conditions look very favorable during the launch window Saturday morning, with little more than a few low-topped cumulus clouds expected. For Sunday, a cold front is forecast to move through the Cape right before or during the window. With limited mid-level support, the front is expected to bring only a narrow band of showers and taller cumulus clouds, as well as gusty north winds. Therefore, the primary concerns for the backup day are the Cumulus Cloud Rule and Ground Winds. In the event of a 48-hour delay, the front is forecast to be south of the peninsula, with high pressure building over the Carolina's leading to a tighter pressure gradient. As a result, the primary concern for a launch attempt on Monday is Ground Winds.

Launch Day	Probability of Violating Weather Constraints						
	10%	Primary Concerns: Cumulus Cloud Rule					
	Weather Conditions					Additional Risk Criteria	
	Weather/Visibility:	None / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Solar Activity: Low
	Temp/Humidity:	74-76°F / 82%	Cumulus	Few	2,000	5,000	
Ground Winds (230'):	300° @ 6 knots						
24-Hour Delay	Probability of Violating Weather Constraints						
	50%	Primary Concerns: Cumulus Cloud Rule, Ground Winds					
	Weather Conditions					Additional Risk Criteria	
	Weather/Visibility:	Isolated Showers / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Solar Activity: Low
	Temp/Humidity:	73-75°F / 85%	Cumulus	Scattered	2,000	20,000	
Ground Winds (230'):	340° @ 18 - 25 knots						
48-Hour Delay	Probability of Violating Weather Constraints						
	30%	Primary Concerns: Ground Winds					
	Weather Conditions					Additional Risk Criteria	
	Weather/Visibility:	None / 7 mi.	Type	Coverage	Base (ft)	Tops (ft)	Solar Activity: Low
	Temp/Humidity:	71-73°F / 71%	Cumulus	Scattered	2,000	6,000	
Ground Winds (230'):	040° @ 15 - 20 knots						
Note: The Probability of Violation (POV) is the chance that a Lightning Launch Commit Criteria (LLCC) or certain user constraints (surface winds, precipitation, and temperatures, etc.) will be violated during the launch window. It does not take into account upper-level wind shear and solar activity.							
Next Forecast Will Be Issued		As Required					